UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/853,225	05/11/2001	Geoffrey A. Strongin	2000.038900/TT3762	6355

23720 7590 03/27/2006

WILLIAMS, MORGAN & AMERSON
10333 RICHMOND, SUITE 1100
HOUSTON, TX 77042

EXAMINER	
LI, AIMEE J	

ART UNIT	PAPER NUMBER
2183	

DATE MAILED: 03/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/853,225	STRONGIN ET AL.	
	Examiner	Art Unit	
	Aimee J. Li	2183	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 February 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10-03-02*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-33 have been considered.

Papers Submitted

2. It is hereby acknowledged that the following papers have been received and placed of record in the file: After Final as received on 01 February 2006.

Information Disclosure Statement

3. The information disclosure statement filed 03 October 2002 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. The non-patent literature cited in the IDS was not located by the Examiner.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 7-10, 12-13, 18-21, and 25-33 are rejected under 35 U.S.C. 102(b) as being taught by Walker et al., U.S. Patent Number 5,771,390 (herein referred to as Walker).

6. Referring to claims 1, 12, 25, 28, and 31, taking claim 12 as exemplary, Walker has taught a computer system, comprising:

a. A processor (Walker column 3, line 64 to column 4, line 44 and Figure 2); and

b. A device coupled to the processor (Walker column 3, line 64 to column 4, line 44 and Figure 2), wherein the device includes:

i. An indicator configured to indicate when the processor is in a first operating mode (Walker column 1, lines 40-64; column 2, lines 31-37; column 2, line 60 to column 3, line 3; column 3, lines 44-59; column 4, line 61 to column 5, line 58; Figure 3; and Figure 4);

ii. A first timer configured to indicate a duration in which the indicator is active (Walker column 1, lines 40-64; column 2, lines 31-37; column 2, line 60 to column 3, line 3; column 3, lines 44-59; column 4, line 61 to column 5, line 58; Figure 3; and Figure 4); and

iii. Control logic coupled to receive the duration from the first timer, wherein the control logic is configured to provide a control signal to the processor upon the duration reaching a predetermined value (Walker column 1, lines 40-64; column 2, lines 31-37; column 2, line 60 to column 3, line 3; column 3, lines 44-59; column 4, line 61 to column 5, line 58; Figure 3; and Figure 4).

2. Claim 12 is substantially equivalent to claims 1, 25, 28, and 31. The differences between the claims are in the type of apparatus or method language. The rejection used above for claim 12 is used for similar limitations found within these claims.

3. Referring to claims 2 and 13, taking claim 13 as exemplary, Walker has taught wherein the device comprises a bridge (Walker column 3, line 64 to column 4, line 44 and Figure 2). Claim 13 is substantially equivalent to claim 2. The differences between the claims are in the

type of apparatus or method language. The rejection used above for claim 13 is used for similar limitations found within these claims.

4. Referring to claims 7 and 18, taking claim 18 as exemplary, Walker has taught wherein the predetermined value is less than about 2 seconds (Walker column 5, lines 20-31). In regards to Walker, the time period does not matter. Claim 18 is substantially equivalent to claim 7. The differences between the claims are in the type of apparatus or method language. The rejection used above for claim 18 is used for similar limitations found within these claims.

5. Referring to claims 8 and 19, taking claim 19 as exemplary, Walker has taught wherein the predetermined value is not substantially less than 200 milliseconds (Walker column 5, lines 20-31). In regards to Walker, the time period does not matter. Claim 19 is substantially equivalent to claim 8. The differences between the claims are in the type of apparatus or method language. The rejection used above for claim 19 is used for similar limitations found within these claims.

6. Referring to claims 9 and 20, taking claim 20 as exemplary, Walker has taught wherein the predetermined value is set by software or firmware executing in the device (Walker column 5, lines 20-31). In regards to Walker, the time period does not matter. Claim 20 is substantially equivalent to claim 9. The differences between the claims are in the type of apparatus or method language. The rejection used above for claim 20 is used for similar limitations found within these claims.

7. Referring to claims 10 and 21, Walker has taught

a. A second timer configured to indicate a duration since the control signal has been provided (Walker column 1, lines 40-64; column 2, lines 31-37; column 2, line 60

to column 3, line 3; column 3, lines 44-59; column 4, line 61 to column 5, line 58; Figure 3; and Figure 4);

b. Wherein the control logic is further coupled to receive an indication from the second timer of the duration, wherein the control logic is further configured to provide a second control signal upon the duration since the control signal has been provided reaching a second predetermined value (Walker column 1, lines 40-64; column 2, lines 31-37; column 2, line 60 to column 3, line 3; column 3, lines 44-59; column 4, line 61 to column 5, line 58; Figure 3; and Figure 4).

8. Claim 21 is substantially equivalent to claim 10. The differences between the claims are in the type of apparatus or method language. The rejection used above for claim 21 is used for similar limitations found within these claims.

9. Referring to claims 26, 29, and 31, taking claim 26 as exemplary, Walker has not taught

a. Wherein determining if the computer system is in a first operating mode includes determining if the computer system is in system management mode (Walker column 1, lines 40-64; column 2, lines 31-37; column 2, line 60 to column 3, line 3; column 3, lines 44-59; column 4, line 61 to column 5, line 58; Figure 3; and Figure 4), and

b. Wherein asserting a control signal if the first timer has reached the predetermined value includes executing a return from SMM (RSM) instruction before an SMI handler exits the system management mode (Walker column 1, lines 40-64; column 2, lines 31-37; column 2, line 60 to column 3, line 3; column 3, lines 44-59; column 4, line 61 to column 5, line 58; Figure 3; and Figure 4).

10. Claim 26 is substantially equivalent to claims 29 and 32. The differences between the claims are in the type of apparatus or method language. The rejection used above for claim 26 is used for similar limitations found within these claims.

11. Referring to claims 27, 30, and 33, taking claim 27 as exemplary, Walker has taught

a. Issuing an SMI request (Walker column 1, lines 40-64; column 2, lines 31-37; column 2, line 60 to column 3, line 3; column 3, lines 44-59; column 4, line 61 to column 5, line 58; Figure 3; and Figure 4);

b. The computer system entering system management mode (Walker column 1, lines 40-64; column 2, lines 31-37; column 2, line 60 to column 3, line 3; column 3, lines 44-59; column 4, line 61 to column 5, line 58; Figure 3; and Figure 4); and

c. The SMI handler servicing the SMI request (Walker column 1, lines 40-64; column 2, lines 31-37; column 2, line 60 to column 3, line 3; column 3, lines 44-59; column 4, line 61 to column 5, line 58; Figure 3; and Figure 4);

d. Wherein executing an RSM instruction before an SMI handler exits the system management mode occurs while the SMI handler is servicing the SMI request (Walker column 1, lines 40-64; column 2, lines 31-37; column 2, line 60 to column 3, line 3; column 3, lines 44-59; column 4, line 61 to column 5, line 58; Figure 3; and Figure 4).

12. Claim 27 is substantially equivalent to claims 30 and 33. The differences between the claims are in the type of apparatus or method language. The rejection used above for claim 27 is used for similar limitations found within these claims.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 3 and 14 rejected under 35 U.S.C. 103(a) as being unpatentable over Walker et al., U.S. Patent Number 5,771,390 (herein referred to as Walker), as applied to claims 2 and 13 above, in view of Applicant's admitted Prior Art (herein referred to as Prior Art). Taking claim 14 as exemplary, Walker has not explicitly taught wherein the bridge comprises a south bridge. However, Walker has taught that there is a bridge (Walker column 3, line 64 to column 4, line 44 and Figure 2). Prior Art has taught wherein the bridge comprises a south bridge (Prior Art page 3, line 19 to page 4, line 8). A person of ordinary skill in the art at the time the invention was made would have recognized that a south bridge provides interface between elements, thereby ensuring proper communication occurs between elements within the system. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the south bridge of Prior Art in the device of Walker to ensure proper communication between elements within the system. Claim 14 is substantially equivalent to claim 3. The differences between the claims are in the type of apparatus or method language. The rejection used above for claim 14 is used for similar limitations found within these claims.

9. Claims 4-6, 11, 15-17, and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walker et al., U.S. Patent Number 5,771,390 (herein referred to as Walker), as applied to claims 1, 10, 12, and 21 above, in view of Angelo et al., U.S. Patent Number 6,581,162 (herein referred to as Angelo).

13. Referring to claims 4 and 15, taking claim 15 as exemplary, Walker has not taught wherein the first operating mode includes a secure operating mode. Angelo has taught wherein the first operating mode includes a secure operating mode (Angelo column 6, lines 20-22). Angelo has taught that system management mode (SMM) and system management interrupts (SMIs) are traditionally used for power managements, as taught by Walker, but teaches that SMM and SMIs have been expanded to be used within computer security for memory management (Angelo column 7, line 43 to column 8, line 15). A person of ordinary skill in the art at the time the invention was made, and as taught by Angelo, using SMM and SMIs in computer security memory management protects the encryption process from malicious software and viruses and minimizes the danger of destroyed encryption keys remaining in computer memory (Angelo column 3, lines 34-41), thereby improving computer security memory management. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the computer security use of SMM and SMIs in the device of Angelo to improve computer security memory management. Claim 15 is substantially equivalent to claim 4. The differences between the claims are in the type of apparatus or method language. The rejection used above for claim 15 is used for similar limitations found within these claims.

14. Referring to claims 5 and 16, taking claim 16 as exemplary, Walker in view of Angelo has taught wherein the secure operating mode includes SMM (Angelo column 6, lines 20-22). Claim 16 is substantially equivalent to claim 5. The differences between the claims are in the type of apparatus or method language. The rejection used above for claim 16 is used for similar limitations found within these claims.

15. Referring to claims 6 and 17, taking claim 17 as exemplary, Walker in view of Angelo has taught wherein the control signal is configured to indicate that the processor should exit (Walker column 1, lines 40-64; column 2, lines 31-37; column 2, line 60 to column 3, line 3; column 3, lines 44-59; column 4, line 61 to column 5, line 58; Figure 3; and Figure 4) the secure operating mode (Angelo column 7, line 43 to column 8, line 15 and column 9, lines 52-63). Claim 17 is substantially equivalent to claim 6. The differences between the claims are in the type of apparatus or method language. The rejection used above for claim 17 is used for similar limitations found within these claims.

10. Referring to claims 11 and 22, taking claim 22 as exemplary, Walker in view of Angelo has taught wherein the second control signal is configured to indicate that the computer system should enter (Walker column 1, lines 40-64; column 2, lines 31-37; column 2, line 60 to column 3, line 3; column 3, lines 44-59; column 4, line 61 to column 5, line 58; Figure 3; and Figure 4) the second operating mode (Angelo column 7, line 43 to column 8, line 15 and column 9, lines 52-63). Claim 22 is substantially equivalent to claim 11. The differences between the claims are in the type of apparatus or method language. The rejection used above for claim 22 is used for similar limitations found within these claims.

11. Referring to claim 23, Walking in view of Angelo has taught a register coupled to receive a jump address for an interrupt (Walker column 1, lines 40-64; column 2, lines 31-37; column 2, line 60 to column 3, line 3; column 3, lines 44-59; column 4, line 61 to column 5, line 58; Figure 3; and Figure 4) the secure operating mode (Angelo column 7, line 43 to column 8, line 15 and column 9, lines 52-63), wherein the jump address corresponds to the processor entering the secure operating mode (Angelo column 8, lines 12-15; column 9, lines 23-51).

16. Referring to claim 24, Walker in view of Angelo has taught wherein the interrupt comprises a system management interrupt (SMI) (Walker column 1, lines 40-64; column 2, lines 31-37; column 2, line 60 to column 3, line 3; column 3, lines 44-59; column 4, line 61 to column 5, line 58; Figure 3; and Figure 4) the secure operating mode (Angelo column 7, line 43 to column 8, line 15 and column 9, lines 52-63) wherein the secure operating mode comprises system management mode (SMM) (Angelo column 8, lines 12-15; column 9, lines 23-51).

Response to Arguments

12. Applicant's arguments, see After Final, filed 01 February 2006, with respect to the rejection(s) of claim(s) 1-33 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of the above rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aimee J. Li whose telephone number is (571) 272-4169. The examiner can normally be reached on M-T 7:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on (571) 272-4162. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AJL
Aimee J. Li
17 March 2006

EDDIE CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100